

#### THE UNITED STAYES OF AMERICA

TO ALL TO WHOM THESE: PRESENTS: SHALL COME;

NEXCEN Seed Research, UIC

MILETERS, THERE HAS BEEN PRESENTED TO THE

#### Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE GHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR RETING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (I) SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER.

FESCUE, TALL

'Tulsa II'

In Costimonn Thereof, I have hereunto set my hand and caused the seal of the Hunt Haristy Frotection Office to be affixed at the City of Washington, D.C. this third day of May, in the

Attast

ET SEQ.

Low Lommissioner

Commissioner Plant Varioty Protection Office Agricultural Marketing Service Secretary of Agriculars

REPRODUCE LOCALLY. Include form number and d	ate on an reprodu	icuons	<del></del>			Form Approved - OMB No. 0381-0035
	NT OF AGRICULT MARKETING SER LANT VARIETY P	VICE		lowing statements are made in a perwork Reduction Act (PRA) of		e with the Privacy Act of 1974 (5 U.S.C. 552a) and
APPLICATION FOR PLANT VA (Instructions and information co.	RIETY PROTECTI	ION CERTIFICATE				plant variety protection certificate is to be issued until certificate is issued (7 U.S.C. 2426).
1. NAME OF OWNER NEXGEN Seed	Research	1.//1		PERIMENTAL NAME	3. VA	RIETY NAME
Advanta Seedo B.	£ 1(cooo. c.	(3220	- 1		Tuls	a II
(BT:4/16/2007)			ATF7	06		
4. ADDRESS (Street and No., or R.F.D. No., City,	State, and ZIP Co.	de, and Country)	5. TEL	EPHONE (include area code)		FOR OFFICIAL USE ONLY
-Diikwelsestrast-70- 33725	Columbus	5 <del>/</del> . SE	591	967 - 8923	PVPO	NUMBER
AL 4421 AJ Kapello Alban			6 54	(include area code)	120	10300073
0720				967 - 8223	(1) C	
The Netherlands USA  (87: 4/16/2007)  7. IF THE OWNER NAMED IS NOT A "PERSON".		8. IF INCORPORATED, GIVE	491 1	E OF INCORPORATION	4	GDATE
ORGANIZATION (corporation, partnership, asso		STATE OF INCORPORATION	νν ł	31-2006	رشر	Tanuary 13, 2003
Incorporated		The Netherlands	سکیاه	عَدْ مُعْدَدُ		
10. NAME AND ADDRESS OF OWNER REPRESE	NTATIVE(S) TO 9	(BT:4/16/2006) SERVE IN THIS APPLICATION (FIN	iret nereon (iete	imenent lie evienen littu he	F	FILING AND EXAMINATION FEES:
Kenneth Hignight C/O	- KIAII/E(O) 10 C	SERVE IN THIS ALT ELOATION, IT	ist person iste	o war receive an papers)	lε	\$ 2705,00
Adventa Pacific, LLC ASP Research					E S	T
33725 Columbus St SE	l				R E C	DATE 1/13/2003
Albany, OR					E	1
97322					V	: 768.00
USA <b>(ST:4/16/107</b> )					E	DATE 2/2/2007
11. TELEPHONE (Include area code)	12. FAX (Includ	le area code)	1 13	. E-MAIL	В	
(541) 967-8923	(541) 967-83	•	"			
14. CROP KIND (Common Name)	16. FAMILY NA		18.	DOES THE VARIETY CONTA	IN ANY T	RANSGENES? (OPTIONAL)
Tall Fescue	Poaceae	,,		☐ YES ☑ NO		
15. GENUS AND SPECIES NAME OF CROP		RIETY A FIRST GENERATION HYE	BRID2	IF SO, PLEASE GIVE THE AS		USDA-APHIS REFERENCE NUMBER FOR THE
Festuca arundinacea ☐ YES ☑ NO			DIGID!		DEREGUL	ATE THE GENETICALLY MODIFIED PLANT FOR
				COMMERICALIZATION.		EED OF THE VARIETY RESOURCE
CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED     (Follow instructions on reverse)			20.			EED OF THIS VARIETY BE SOLD AS A CLASS B3(a) of the Plant Variety Protection Act)
a.				YES (If 'yes', answer i		
b.			21.	DOES THE OWNER SPECIFING NUMBER OF CLASSES?	THAT S	EED OF THIS VARIETY BE LIMITED AS TO
c.  Exhibit C. Objective Description of Variety				☑ YES □ NO		
d.				IF YES, WHICH CLASSES?	FOU	NDATION PREGISTERED CERTIFIED
e.			22.	DOES THE OWNER SPECIFY	THAT S	EED OF THIS VARIETY BE LIMITED AS TO
·				NUMBER OF GENERATIONS	5?	
<ol> <li>Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public</li> </ol>				YES 📆 NO		
repository)				IF YES, SPECIFY THE NUMBI	ER 1,2,3,	etc. FOR EACH CLASS.
g. Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)				POUNDATION DREGISTERED DC CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)		
23. HAS THE VARIETY (INCLUDING ANY HARVES FROM THIS VARIETY BEEN SOLD, DISPOSED OTHER COUNTRIES?	TED MATERIAL) OF, TRANSFERE	OR A HYBRID PRODUCED RED, OR USED IN THE U. S. OR	24.			
YES NO		. •		☐ YES ✓ NO		
IF YES, YOU MUST PROVIDE THE DATE OF F FOR EACH COUNTRY AND THE CIRCUMSTA	FIRST SALE, DISF NCES. <i>(Please us</i>	POSITION, TRANSFER, OR USE se space indicated on reverse.)		IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		
25. The owners declare that a viable sample of basi a tuber propagated variety a tissue culture will be	c seed of the varie e deposited in a p	ty has been furnished with applicational ublic repository and maintained for t	ion and will be the duration o	replenished upon request in act f the certificate.	cordance	with such regulations as may be applicable, or for
The undersigned owner(s) is(are) the owner of the entitled to protection under the provisions of Sec	his sexually reprod tion 42 of the Plan	uced or tuber propagated plant vari t Variety Protection Act.	iety, and belie	ve(s) that the variety is new, dist	inct, unifo	orm, and stable as required in Section 42, and is
Owner(s) is (are) informed that false representat	tion herein can Jeop	pardize protection and result in pena	alties.			
Kennett Hangte			SIGNATURE	OF OWNER		
NAME (Please print or type)			NAME (Pleas	e print or type)		
Kenneth Hignight				•		
CAPACITY OR TITLE	DATE		CARACITYO	D TITLE I	DATE	

(See reverse for instructions and information collection burden statement)

Director of Research

Director of Research

#### Exhibit A:

#### Origin and Breeding History Tulsa II (ATF706) Tall Fescue

#### 1. Origin:

The tall fescue (Festuca arundinacea) cultivar 'Tulsa II' traces its origin to a seed source obtained from Rutgers University in 1988. This seed originated from half-sib progenies from 22 clones and selected from a nursery which contained 109 plants. These plants were maintained at 15 cm height without irrigation and low fertility. Parental germplasm originated from plants selected in New Jersey, Maryland, Connecticut, Washington D.C., Alabama, Georgia, Idaho, Ohio, South Carolina, North Carolina, Missouri, Tennessee and Mississippi. They were collected from Golf courses, lawns, pastures, parks, and other similar turfs between 1961 and 1976. Population improvement projects involved many cycles of phenotypic assortive mating each followed by single plant progeny trials maintained in stressful turf environments.

#### **Breeding History:**

- 1988: Seed obtained from Rutgers University was designated as the base population. A plant selection field was established in the fall of 1988.
- 1989: Plants were allowed to grow and observations were taken.
- 1990: Plants were allowed to grow and observations were taken.
- 1991: A 15 clone polycross group was formed before anthesis based on dwarf growth habit, dark foliage color and number of seed heads. Seed was harvested and a plant selection field of 2,000 plants was established.
- 1992: Off-type plants were rogued from the 2,000 plant block and the seed was harvested in bulk.

- 1993: In the fall a turf trial was sown with the University of Georgia; Griffin, GA.
- 1994: In the late summer survivors from the 1993 trial were removed, returned to Albany, OR for increase and designated ATF303.
- 1995: ATF303 was harvested in bulk.
- 1996: In the fall a turf trial was sown with the University of Georgia; Griffin, GA which included ATF303.
- 1997: In the late summer survivors from the 1996 trial were removed, returned to Albany, OR for increase and designated ATF519.
- 1998: ATF519 was harvested in bulk. A single plant nursery containing 1,140 plants was established of ATF519.
- 1999: Fifty-one clones were selected from the single plant nursery before anthesis. The selections were based on crown density, genetic color, leaf texture, and freedom from disease. The 51 clones were allowed to interpollinate and were harvested in bulk and designated ATF706. In the fall a breeder seed increase block was established of ATF706.
- The breeder seed block was harvested in the fall in bulk and designated ATE 7065 breeder seed. A morphological nursery was established in the fall for Plant Variety Protection (PVP) measurements.

#### 2. Breeder Seed Maintenance:

A breeder seed multiplication was planted in isolation in 1999 in Albany, OR. Seed was harvested in bulk in 2000 and is maintained in cold storage. Seed propagation is limited to three generations, one each of foundation, registered, and certified.

#### 3. Stability and Uniformity:

Tulsa II has been a stable uniform cultivar over two generations. No off-type or variant plants have been observed during the multiplication or reproduction. During the breeder seed multiplication 1% of the plants were removed to improve the uniformity of the population. These types were not observed during the subsequent generations. Turf plots of Tulsa II have been uniform.

Exhibit A (addendum): Statement of Stability and Uniformity for Tulsa II tall fescue

Tulsa II has been a stable uniform cultivar over two generations. No off-type or variant plants have been observed during the multiplication or reproduction. During the breeder seed multiplication 1% of the plants were removed to improve the uniformity of the population. The plants that were removed showed less vigor and had poor plant health. It is not known if the lack of vigor was due to environmental factors, genetic factors, or an environment by genetic interaction. These types were not observed during the subsequent generations. Turf plots of Tulsa II have been uniform and stable.

#### Novelty Statement of Tulsa II (ATF706) Tall Fescue

The following summary outlines the distinctive characteristics of Tulsa II. The novelty of Tulsa II is based on the unique combination of these characteristics. Tulsa II is most similar to Rebel II, but may be differentiated by using the following criteria:

- 1. Tulsa II has a heading date later than Rebel II (tables 1A, 1B).
- 2. The genetic color of Tulsa II is darker compared to Rebel II (tables 1A, 1B).
- Tulsa II has a mature plant height at least 11 cm shorter than Rebel II (tables 1A, 1B).
- The flag leaf characteristics for Tulsa II; height, length, sheath length and internode length are all shorter compared to Rebel II (tables 1A, 1B).
- 5. The leaf blade characteristics for Tulsa II; height and length are shorter compared to Rebel II (tables 1A, 1B).
- 6. The lengths of the palea and awn are shorter for Tulsa II than Rebel II (tables 2A, 2B).
- 7. Tulsa II produces more plants with purple glumes and purple anthers compared to Rebel II (tables 3A, 3B).
- Rebel II produces no plants with four or more branches of the lower most whorl (tables 3A, 3B). Tulsa II produces some plants which contain 4 or more branches on the lower whorl.

REPRODUCE LOCALLY. Include form number and date on all reproductions.

Form Approved - OMB No. 0581-0055

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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> U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY PROGRAM PLANT VARIETY PROTECTION OFFICE **BELTSVILLE, MD 20705**

EXHIBIT C (TALL & MEADOW FESCUES)

#### **OBJECTIVE DESCRIPTION OF VARIETY** TALL & MEADOW FESCUES

(Festuca spp.)

NAME OF ADDITIONATION				
NAME OF APPLICANT(S)	d Research, LLC	MPORARY DESIG	NATION VAR	IETY NAME
(BT.4/16/2007).	u neseaton, ile	ATF706		Tulsa II
( <del>01:8/8/2016)</del>			1	
ADDRESS (Street and No., or R.F.D. No., City,	State, and ZIP Code)		FOR	OFFICIAL USE ONLY
				) NUMBER
33725 Columbus St. S. E.D.	33725 C	olumbus St. SE	j	
Albany, OR	At Supelle Albany	, OR	nha	T A A A TO
(BT: 4/16/2007)	97322. USA		LV V	300073
Place the appropriate number that describes the year		a vani sturiu 4h a h	_11 _ TT _ 1 _ 1'	1
Place the appropriate number that describes the va 089). Characteristics described, including numeric	al measurements, should:	s variety in the boxe	s below. Use leading	ig zeroes when necessary (
be for SPACED PLANTS. Royal Horticultural Soc	iety or any recognized cold	or fan may be used to	ate <u>typicai</u> for the v Adetermine plant c	olore. Characteristics mo
with an asterisk * are characteristics which should	d be recorded.	or run may oo asoa w	determine plant e	otors. Characteristics mai
* 1. SPECIES: (With comparison varieties, use va	rieties within the species	of the application v	ariety)	
$_{6}$ 1 = F. arundinacea (Tall)	<b>Turf Types</b>			
$1 = \text{Kentucky } 31 \ 2 = \text{Rebel}$	3 = Olympic   4 = 1	Bonanza	5 = Arid	6 = Rebel II
7 = Shortstop 8 = Silverado	$9 = \text{Rebel Jr.} \qquad 10 =$	Mini Mustang	11 = Crewcut	12 = Bonsai
	Forage Type	<u>s</u>		
20 = Kentucky 31	21 = Martin	22 = Forager	23 = Mozark	
24 = Kenhy	25 = AU Triumph	26 = Fawn	27 = Cajun	
2 = F. pratensis (Meadow)				
30 = Admira $31 = I$	Beaumont 32 = Comtess	22 – F	24 E 1	
30 Admin 31 - 1	seaumont 32 – Comiess	a 33 = Ensign	34 = Trader	
* 2. CYTOLOGY:				
42 Chromoson	ne Number			
3. ADAPTATION: (0 = Not Tested; 1 = Not Adap	ted; 2 = Adapted)			
_2_Transition Zone2_West	2 Northeast	Other (Specify):_		
* 4. MATURITY: (Date First Headed, 10% of Par	iolo Emarganas			
_6_ Maturity Class  1 = Very early ( )		3 = Early (Fawr	1) $4 = K31$ , Ke	nhy 5 = Medium (Rebo
				· ·

4. MATURITY: (continued)
6 = Bonanza $7 = Late (Silverado)$ $8 = ()$ $9 = Very late$
Date Headed _37.67_ (days after April 1,)_ LocationAlbany, OR
Days earlier than <b>&gt;</b> 200300073
Maturity same as Comparison Variety
_3.34_ Days later than _6 <b>J</b>
* 5. MATURE PLANT HEIGHT CM: (Average of 100 culms from crown to top of panicle, if panicle is nodding, straighten)  * INTERNODE LENGTH CM: (First internode subtending the flag leaf)
_9673_ cm Height1687_ cm InternodeLength
11.20_ cm Shorter than6
Height same as Comparison Variety Length same as Comparison Variety
* HEIGHT AT EAR EMERGENCE CM: (Flag leaf height from crown to flag leaf node)
4680_ cm Height
9.40_ cm Shorter than _6_
Height same as Comparison Variety
cm Taller than
* CODOMENT TO THE TOTAL THE TOTAL TO THE TOTAL THE TOTAL TO THE TOTAL THE TOTAL TO THE TOTAL TOT
* 6. GROWTH HABIT: (Mature Plants)
_7_ 1 = Prostrate ( ) 3 = Semiprostrate ( ) 5 = Horizontal ( )
7 = Semierect (Rebel) 9 = Erect (Mini Mustang)
* 7. RHIZOMES (Psuedo):
mm Length1_1 = Absent ( ) 2 = Rare (Rebel) 3 = Common ( )
* 8. LEAF BLADE: (Tiller leaves/ turf color)
* $_6$ _Color: 1 = Light green ( ) 3 = Medium light green ( ) 5 = Green ( )
7 = Medium dark green ( ) 9 = Very dark green ( )
5 Specify rating of comparison variety
*_1_ Anthocyanin: 1 = Absent ( ) 9 = Present ( )
*_1_ Basal Hairs:

8. LEAF BLADE: (continued)					. W
*_6_Width Class:	I = Very coarse ( )	3 = (	Coarse ( )	5 = Medium (	200300073
	7 = Fine ( )	9 = V	Very Fine ( )		
* TILLER LEAF LENGTH CM: (F	irst leaf subtending th	ne flag leaf	f) * TILLE	ER LEAF WIDTH	MM:
_37.10_ cm Tiller Leaf Lea	ngth		_9.33_ r	nm Tiller Leaf Wid	lth
cm Shorter than	<b>-</b>		mm	Narrower than	
Length same ascm Taller than	-6 Compariso	n Variety	Wie	dth same as _6_	- Comparison Variety
cm Taller than	_ )	Ĵ	mm	Longer than	Sumparison varioty
FLAG LEAF LENGTH CM:			FLAG	LEAF WIDTH M	M;
_43.10 cm Flag Leaf Ler	gth		_7.45 mm	Flag Leaf Width	
_3.47 cm Shorter than	6_ `		mm :	Narrower than	
Length same as	_	n Variety	Widt	th same as _6_	Comparison Variety
cm Longer than _	_ J comparison	u varicty	mm '	Wider than	Comparison variety
* 9. LEAF SHEATH: (Basal Portion	)	···			
*_1_ Anthocyanin (seedling	g): 1 = Absent (K	31)	9 = Pre	esent ( )	
*_9_ Auricle Hairiness:	I = Absent (	)	9 = Pre	esent ( )	
* 10. PANICLE: (At seed maturity ex	xcept where noted.)				
Bris/g/bb/ (6) * Shape: 1 = Narroy Veris/correction	v-tapering ( )	5 = O <sub>V</sub>	vate ( )	7 = Oblong ( )	9 = Other (specify)
*_7_ Type: 1 = Compa	act (appressed)	5 = Int	termediate ( )	7 = Open ( )	9 = Other (specify)
(8) $*$ Orientation: 1	= Nodding ( )		9 = Erect ( )		
(81:8/8/66)* 1 Branch Pubescence: 1	= Glabrous ( )		9 = Pubescent (	)	
*_1_ Anther Color (At anthe	esis): 1 = Yellowish	Green	2 = Green	3 = Bluish Green	
	4 = Purplish		5 = Reddish	6= Other (Specify	)
*_1_ Glume Color (At anthe	sis): 1 = Yellowish	Green	2 = Green	3 = Bluish Green	
*_79.87_ cm Panicle Length	4 = Purplish (from base to tip, if r	odding, st	5 = Reddish traighten; after anti	6= Other (Specify hesis)	)
Length same as6 cm Longer than	- }	Comparis	on Variety		

13. ENVIRONMENTAL STRESS: (continued)

200300073

Winter Stress

1 = Susceptible ( )

5 = Tolerant()

9 = Resistant (

14. GIVE VARIETY OR VARIETIES THAT MOST CLOSELY RESEMBLE THE APPLICATION VARIETY. For the following characteristics, indicate the degree of resemblance with the following scale:

1 = Application variety is less than comparison variety 2 = Same as 3 = More than, better, greater, darker, etc.

Character	Varieties	Rating	Character	Varieties	Rating	
Leaf Width	Rebel II	2	Leaf Color	Rebel II	3	
Panicle Color	Rebel II	3	Panicle Shape	Rebel II	2	
Seed Size	Rebel II	3	Cold Injury	Rebel II	2	
Winter Color	Rebel II	3	Heat	Rebel II	3	
Disease	Rebel II	3				

<sup>\* 15.</sup> EXPERIMENTAL: Give a brief summary of the experimental design utilized to collect the data used on this form. Cultural conditions, number of plants measured and plant spacing must be specified.

A morphological nursery designated 00PVPFA was established in September 2000, in Albany, Oregon. Experimental design consisted of 18 entries; 3 replications per entry; 20 plants per replication; for a total of 60 plants per entry. KY-31, Rebel II, Regiment and Tulsa were used as a standards. Plants were established on 2.5 foot centers with a skip row between replications and between entries.

The nursery received 30 pounds of nitrogen per acre rate following establishment and 50 pounds of nitrogen per acre per year in 2001 and 2002. The fertilizer source was 15 - 15 - 15 and was applied as a split application with ½ applied in the spring and ½ in the autumn. The nursery was sprayed twice each spring, 3 weeks between applications, with Tilt (20z/acre rate), to prevent stem rust. One pound of Karmex per acre rate was applied during the late summer to prevent emergence of volunteer seedlings.

Data was analyzed using analysis of variance for a randomized complete block design. Means were calculated for each replication and then analyzed.

### Exhibit D: Additional Description Tulsa II (ATF706) Tall Fescue

Tulsa II is an improved turf-type tall fescue. It has a shorter growth habit (tables 1A, 1B) than previously released tall fescue cultivars, such as KY-31 and Rebel II. Tulsa II has a medium-late maturity with a heading date later than KY-31 and Rebel II (tables 1A, 1B). Tulsa II exhibits a darker genetic color compared to KY-31, Rebel II, Tulsa and Regiment (tables 1A, 1B). Tulsa II has a taller leaf blade height than Regiment (tables 1A, 1B). The length of the longest branch of the lower most whorl is longer for Tulsa II than Tulsa (tables 2A, 2B, illus. 1). The distance between the two lower most whorls is greater for Tulsa II than Tulsa (tables 2A, 2B). The length of the panicle from the lower most whorl to the apex is greater for Tulsa II compared to Tulsa (tables 2A, 2B, illus. 1). Tulsa II produces more purple pigmentation in the panicles compared to KY-31, Tulsa and Regiment (tables 3A, 3B). The expression of purple pigmentation in the glumes is more frequent in Tulsa II compared to KY-31, Rebel II and Tulsa (tables 3A, 3B). Tulsa II has a higher seed weight than Rebel II and Tulsa; but a lower weight than KY-31 (tables 3A, 3B). The dark pigmentation of the nodes is less frequent in Tulsa II compared KY-31 (tables 4A, 4B). Tulsa II expresses a significant difference over Regiment for turf density and percent turf cover during repeated dry-downs over a two year period (table 5). Tulsa II also exhibits an improvement over Tulsa in percent turf cover (table 5).

## 2001 Morphological Data

Cultivar	Heading	Anthesis	Genetic	Mature	Plant	Panicle	Flag	Flag	Flag	Flag	Flag	Leaf	Leaf	Leaf	Leaf
	Date	Date	Color	Plant	Width	Length	Leaf	Leaf	Leaf	Leaf	Leaf	Blade	Blade	Blade	Sheath
	(days	(days		Height	(cm)	(cm)	Length	Width	Height	Sheath	Internode	Length	Width	Height	Lenoth
	after	after		(cm)			(cm)	(mm)	(cm)	Length	Length	(cm)	(mm)	(m)	(m)
	April 1)	April 1)								(cm)	(cm)	ĵ	]	ì	(ma)
-ATF7062	37.67	62.33	5.05	102.03	19.07	79.87	43.10	7.45	46.80	25.23	16.87	37.07	9.33	19.00	14.30
KY-31	30.67	59.67	3.17	125.73	18.40	91.93	50.53	8.58	63.83	30.80	23.20	43.13	10.13	27.37	17.47
Rebel II	34.33	61.00	3.68	113.23	22.13	85.87	46.57	7.92	56.20	28.03	20.27	38.37	9.63	22.33	16.90
Tulsa	39.33	63.33	4.35	100.80	18.67	77.17	40.97	7.00	45.97	23.70	17.60	33.87	8.65	18.60	14.17
Regiment	35.67	62.00	4.25	99.37	19.00	78.67	41.97	7.63	42.87	22.50	15.40	34.27	9.15	15.77	12.97
(SO') TSD('02)	1.95	1.37	0.36	. 06'9	1.68	4.89	2.92	0.94	4.50	2.00	1.77	2.89	0.79	2.38	1.55
C.V.	3.62	1.58	5.27	5.58	96.9	5.00	5.77	10.18	8.03	6.58	8.48	689	6.67	11.28	9.17

Measurements taken in Albany, Oregon; 3 reps; 20 plants/rep = 60 data points.

Cultivar under evaluation.

Significant difference over two years one location.

Significant difference over one year one location.

М
le 1
Tab

## 2002 Morphological Data

Cultivar	Heading	Anthesis	Genetic	Mature	Plant	Panicle	Flag	Flag	Flag	Flac	Flag	Î paf	I onf	300 1	,
	Date	Date	Color	Plant	Width	Lenoth	Loof	, y	ب ب	0 4	0 '	- Fran	T Car	3	Fear
		,	!			THE PART	T Car	120	Leai	Leat	Leaf	Blade	Blade	Blade	Sheath
	(days	(days		Height	(cm)	(cm)	Length	Width	Height	Sheath	Internode	Ĭ.enoth	Width	Height	140,000
	after	after		(cm)			(46)	(10000)	) (111)	Ę.	,	9	1	11cigni	Indian.
	Ameil 1)	A 1. 1.					(mm)	(mm)	(cm)	Lengin	Length	(cm)	(mm)	(cm)	(cm)
T.363 TT	(1 mmt-2	April 1)								(cm)	(cm)				
ATT 706	54.67	63.33	5.42	122.83	24.00	79.17	46.13	6.37	70.00	28.07	27.13	43 30	8 10	25.77	17 <2
V 21	00.00	000	, ,									2000	21.0	33.17	CC., 1
N1-31	42.00	28.00	3.38	150.07	24.60	93.03	57.10	7.47	92.70	35.67	32.03	54.03	9.85	49.90	22.83
Rebel II	20.67	62.00	4.32	134.97	24.90	83.40	51.30	6.80	81.80	32.27	31.23	40.03	0 50	25.70	1000
											2000	17.00	0.00	44.10	19.50
Luisa	58.67	64.00	5.13	113.97	24.73	73.83	43.73	6.03	66.13	26.70	26.03	41.27	7.60	33.53	16.77
Regiment	55.33	62.67	4.70	120.43	24.93	79.40	47.83	6.67	69.57	27.90	27.37	45.47	7.87	00.00	17 67
7.07												,,,,,,,	1.0.1	75.00	17.37
LSD(.05)	3.21	1.42	0.24	5.03	1.16	4.66	2.54	0.61	3.67	1.14	1.45	2.44	59.0	2.79	88 0
C.V.	4.13	1.62	3.33	3.24	3.40	4.60	4.25	7.02	4.09	3.12	4.10	4.3.1	200	96	
										****	AT:-	15.5	/5/0	0.38	×0

Measurements taken in Albany, Oregon; 3 reps; 20 plants/rep = 60 data points.

Cultivar under evaluation.

Significant difference over two years one location.

图 Significant difference over one year one location.

Table 2A

# 2001 Laboratory Morphological Data

Cultivar		Lemma	Lemma	Lemma	Palea	Palea	, mil	1		•				
		Length	Width	Awn	Length	Width	Length	Frorets per Spikelet	Spikelet Length	Length of Longest	Distance Between	Number of Snikelets on	Spikelets	Length of
		(mm)	(mm)	Length	(mm)	(mm)	(mm)		(mu)	Whorl	Lower Most	the Longest	per ramore	Jower Most
				(mm)						(mm)	Whorls (mm)	Whorl		Whorl to Tip
ulsa I	١.													(mm)
61: 3/8/06) < ATF7067	. [	5.69	1.51	1.91	6.68	1.39	4.97	6.70	12.70	124.07	63.67	15.98	101.67	25.93
KY-31		6.16	1,56	2.15	7.28	1.49	5.77	6.77	13.80	115.03	61.87	15.10	110.00	27.20
Rebel II		5.75	1.49	2.24	66.99	1.40	5.11	5.80	12.30	100,60	58.53	15.00	101.60	24.33
Tulsa		5.62	1,44	2.11	6.52	1,34	5.05	6.77	12.30	102.60	56.53	16.82	100.67	23.40
Regiment		5.96	1.53	2.29	96'9	1.44	5.16	6.47	13.13	114.27	60.73	16.07	92.33	24.50
LSD(.05)	3	0.27	80'0	0.19	0.21	80.0	0.25	0.75	68'0	14.06	5.72	2.69	9.92	2.09
C.V.		3.53	3.66	6.55	2.26	4.00	3.62	8.13	5.13	10.51	7.76	11 99	7.65	707
												T	70.7	1.04

Measurements taken in Albany, Oregon; 3 reps; 20 plants/rep = 60 data points.

Cuftivar under evaluation.

Significant difference over two years one location.

Significant difference over one year one location.

Table 2B

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Cultivar	Lemma	Lemma	Lemma	Palea	Palea	Glume	Florets per	Spikelet	Length of	Distance	Number of	Spikelets	Length of
	Taign ,	W.Idill	Awn	Length	Width	Length	Spikelet	Length	Longest	Between	Spikelets on	per Panicle	Spike From
	(mm)	(mm)	Length	(mm)	(mm)	(mm)		(mm)	Whorl	Lower Most	the Longest		Lower Most
			(mm)						(mm)	Whorls (mm)	Whorl		Whorl to Tip
Tulsan													(mm)
KATF706	6.63	1.27	0.92	6.33	1.12	4.88	4.85	10.47	101.17	58.90	14.92	102.33	25.83
KY-31	7.23	1.37	68.0	86.9	1.23	5.23	4.88	11.43	98.40	64.57	15.80	11467	30.13
Rebel II	6.92	1.43	1.34	89:9	1.26	5.12	4.93	11.57	100.43	61 90	16.08	100 64	00.10
Tulsa	6.61	1.33	080	6.23	1.11	4.75	4.98	10.40	86.37	52.33	16.08	102.07	00.72
Regiment	6.70	1.37	1.04	6.53	1.17	4.80	4.77	10.97	92.33	56.73	14.02	20.00	23.33
LSD(.os)	0.31	60.0	0.21	0.20	90.0	0.31	0.55	0.64	11.42	5.58	2.81	10.71	2.14
C.V.	3.42	5.07	15.21	2.28	3.87	4.66	8.02	4.30	9.95	7.65	13.49	8 42	675
												7	0.0

Measurements taken in Albany, Oregon; 3 reps; 20 plants/rep = 60 data points.

Cultivar under evaluation.

Significant difference over two years one location.

Significant difference over one year one location.

#### Panicle Type Inflorescence

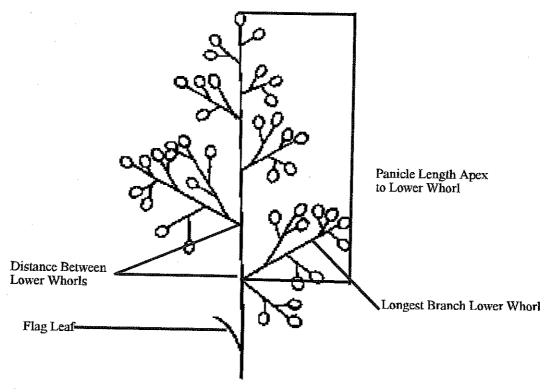


Illustration 1.

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2001 Additional Morphological Measurements of the Panicle

Cultivar	Arther	Panicle	Leatuna	Pales	Centrons	e de la composición della comp	Panicle	Panicle	Panicle	Branch	Branch	Branch	Branch	Seed
	Color	ja Celja	Hairs	Hairs	Awn	<u>5</u> 8	Orientation	Shape	Type	Lower	Lower	Lower	Lower	Weight
	% Purple	%Purple   %Purple	% Present	% Present	% Present	% Purple	% Nodding	% Ovarte	"%Oben	Whorl	Whorl	Whork	Whorl	mg/1,000
A 1-30-00										ī	የ	FF	**	Seeds
ATF7065	0	22	180	100	100	7	en.	63	37	<b>50</b> 0	1342	84	&	2774
KY-31	0		97	100	100	0	12	82	- 95	92	10	82	€0	3345
Rebel II	0	\$1	86	86	001	0	10	83	17	13	13	83	0	2543
This in	0	18	26	90	100	'n	0	70	30	ĸ	25	73	2	2395

Measurements taken in Albany, Oregon; 3 reps. 20 plants/rep = 60 data points.

Cultivar under evaluation.

Table 3B

2002 Additional Morphological Measurements of the Panicle

Cultings	345	4		,										
		range	Lemma	ralea ea	Lemma	Glume	Panicle	Panicle	Panicle	Branch	Branch	Branch	Branch	Seed
	<u> </u>	<u>5</u> 8	Hairs	Hairs	F.	Color	Orientation	Shape	ž	Lower	Lower	Lower	Lower	Weight
	% Purple	% Purple	% Purple   % Purple   % Present	% Present	% Present	% Purple	%Nodding %Ovare	% Ovation	*	Deen Wherl Wheel Wheel Wheel mg/1,00	Whoel	Whorl	Whorl	mg/1,000
										T.	۲	Ŷ	7	Seeds
を記録	0	38	92	 음	001	<u>.</u>	0	37	83	63	83	5	0	2812
KY-31	<b>*</b>	13	62	100	100	~	•	~	8	13	73	m	•	3348
Rebel II	\$	30	86	001	100	10	0	23	4	28	12	•	0	2562
Tulsa	C)	22	8	100	100	\$	0	×	75	43	57	0	0	2369

Measurements taken in Albany, Oregon; 3 reps; 20 plants/rep = 60 data points

Cultivar under evaluation.

Table 4A

2001 Additional Morphological Measurements of the Leaf Blade

,											
Cultivar	Growth	Growth	Growth	Anthocyanin	Leaf Blade Margin	Leaf Blade Margin	LeafBlade	Leaf Blade	Toof	71.	
	Habit at	Habit at	Habit at	Present in the	Roughness to the	Roughness to the	Marcin		Teal	Ninzomes	Node
	Anthacie	Awtheria	Amethoriza	, 103. Y			waigm	Margin	Sheath	% Present	Color
	CICALITY I	Signing	Andlesis	Lear Blade	Touch	Touch	Roughness to the	Hairs	Auricle		%
	% Prostrate	% Semi-	% Erect	% Purple	% Smooth	% Semi-Rough	Touch	% Present	Hoins		
		Prostrate				)	% Rough		or Parent		Lusting
Tesin							0		70 F 1 CSCIII		
CATF7067	10	75	15	0	57	23	20	62	77	0	7.
VV 21			,	,						,	7.7
16-14	40	20	10	0	70	15	15	08	92	0	48
Rebel II	10	77	13	0	83	12	5	87	84		; ;
F	ļ								6		cr
l ulsa	10	78	12	0	/89	18	13	85	8.7	C	15
Regiment	7	80	13	0	83					,	
				,	3	77	0		83	_	-2

Measurements taken in Albany, Oregon; 3 reps; 20 plants/rep = 60 data points.

Cultivar under evaluation.

Table 4B

2002 Additional Morphological Measurements of the Leaf Blade

Cultivar	Growth	Growth	Growth	Anthocyanin	Leaf Blade Margin	Leaf Blade Margin	LeafBlade	Leaf Blade	Jea [	Phiromee	Nodo
	Habit at	Habit at	Habit at	Present in the	Roughness to the	Roughness to the	Margin	Margin	Sheath		Color.
	Anthesis	Anthesis	Anthesis	Leaf Blade	Touch	Touch	Roughness to the	Hairs	Anrida		io io
	% Prostrate	% Semi-	% Erect	% Purple	% Smooth	% Semi-Rough	Touch	% Present	Haire		Distingt
		Prostrate				,	% Rough		% Present		Pillig
Tuisa.II. <atfr></atfr> ATF7067	10	75	15	0	43	27	30	85	υb	-	5
									2	>	77
KY-31	40	50	10	0	75	13	12	08	11	0	. 04
Rebel II	10	77	13	0	<i>LL</i>	13	10	87	92	c	23
Tulsa	10	78	12	0	56	27	17	85		0	25
Regiment	7	80	13	0	58	22	20	87	95	0	23
											ì

Measurements taken in Albany, Oregon; 3 reps; 20 plants/rep = 60 data points.

Cultivar under evaluation.

(BT:8/8/2006)

#### 1999 Tall Fescue Drought Trial

#### University of Georgia - Griffin, GA

(Dry Down Data - Averages For 2 Years of Data)

#### Table 5

Cultivar	Turf Quality	Turf Density	% Turf Cover	Turf Color
Tulsa	5.7	6.2	84	6.3
Regiment	5.6	5.9	79	6.5
ATF705	6.3	6.7	90	6.6
Tulsa II <atf706></atf706>	5.9	6.5	90	6.2
Plantation	6.0	6.5	85	6.7
LSD (.05)	0.45	0.41	5.90	0.36
C.V.	10.00	10.00	7.00	9.00

(BT: 8/8/2006)

Measurements taken in Albany, Oregon; 3 reps; 20 plants/rep = 60 data points.

- Cultivar under evaluation.
- Significant difference over two years one location.
- Significant difference over one year one location.

Data provide by Dr. R.R. Duncan; University of Georgia; Griffin, GA.

Note - Turf coverage is 24 months after establishment and taken in mid-September 2001. The visual quality rating is the average of 17 ratings over both growing seasons. Grasses were mowed at 2.0 inches and subjected to seven repeated dry-down periods over the summers of 2000 and 2001. No supplemental irrigation was applied in 2001 except in late June. Each dry-down resulted in significant leaf firing (% turf).

REPRODUCE LOCALLY. Include form number and edition date on all	reproductions. F	ORM APPROVED - OMB No. 0581-0055
U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE	Application is required in order to detect certificate is to be issued (7 U.S.C. 24	
EXHIBIT E STATEMENT OF THE BASIS OF OWNERSHIP	confidential until the certificate is issue	
1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION	3. VARIETY NAME
NEXGEN Seed Research, LLC	OR EXPERIMENTAL NUMBER ATF706	Tulsa II
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)		
4. ADDICESS (Street and No., or K.F.D. No., City, State, and 21P, and Country)	5. TELEPHONE (Include area code)	6. FAX (Include area code)
33725 Columbus St. SE Albany, OR	(541) 967-8923	(541) 967-8223
97322	7. PVPO NUMBER	A A A 7 7
USA	#2003	
8. Does the applicant own all rights to the variety? Mark an "X" in the 9. Is the applicant (individual or company) a U.S. national or a U.S. ba		
o. is the applicant (individual of company) a 0.3. Hallonal of a 0.3. ba	aseu company? It no, give name of co	ountry. YES NO
10. Is the applicant the original owner?	NO If no, please answer <u>one</u> (	of the following:
a. If the original rights to variety were owned by individual(s), is (a	NO If no, give name of count	
b. If the original rights to variety were owned by a company(ies),	is (are) the original owner(s) a LLS has	red company?
YES	NO If no, give name of country	
11. Additional explanation on ownership (Trace ownership from original	al breeder to current owner. Use the re	verse for extra space if needed):
PLEASE NOTE:		
Plant variety protection can only be afforded to the owners (not license	ees) who meet the following criteria:	
If the rights to the variety are owned by the original breeder, that penational of a country which affords similar protection to nationals of	rson must be a U.S. national, national of the U.S. for the same genus and specie	f a UPOV member country, or es.
<ol><li>If the rights to the variety are owned by the company which employe nationals of a UPOV member country, or owned by nationals of a co- genus and species.</li></ol>	ed the original breeder(s), the company ountry which affords similar protection to	must be U.S. based, owned by a nationals of the U.S. for the same
3. If the applicant is an owner who is not the original owner, both the o	riginal owner and the applicant must me	eet one of the above criteria.
The original breeder/owner may be the individual or company who dire Act for definitions.	ected the final breeding. See Section 4	(a)(2) of the Plant Variety Protection
According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, a control number. The valid OMB control number for this information collection is 0581-0055. Tincluding the time for reviewing the instructions, searching existing data sources, gathering an	The time required to complete this information collect	ion is estimated to average 0.1 hour nor menonce
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